WHAT IS CLAIMED IS:

1. A method for forming a metal-oxide semiconductor field-effect transistor (MOSFET), comprising:

forming a fin on a substrate;

forming a mask on the substrate;

etching the mask to expose a channel area of the MOSFET;

thinning a width of the fin in the channel area; and

forming a gate over the fin, the gate extending on each side of the fin.

2. The method of claim 1, wherein the substrate includes a silicon layer on top of a buried oxide layer; and

wherein the forming a fin includes:

etching the silicon layer to form the fin.

3. The method of claim 1, further comprising:

patterning a fin area, a source area, and a drain area.

4. The method of claim 3, further comprising:

forming a silicide material on the substrate; and

forming a gate contact, a source contact, and a drain contact through the silicide material.

5. The method of claim 1, wherein the forming a mask includes:

depositing damascene material over the substrate.

6. The method of claim 5, wherein the forming a gate includes:

etching the damascene material to form a gate area,

forming a gate dielectric on side surfaces of the fin, and

depositing gate electrode material to at least partially fill the gate area.

7. The method of claim 6, wherein the gate electrode material comprises at least one of a polysilicon and a metal.

8. The method of claim 1, further comprising:

forming a silicide material on the gate; and

forming a gate contact through the silicide material.

9. The method of claim 1, wherein the thinning a width of the fin includes:

removing approximately 100 Å to 200 Å per side from a width of the fin.

10. The method of claim 1, further comprising:

forming a silicon oxide material on the fin.

11. The method of claim 10, further comprising:

removing the silicon oxide material before forming the gate.

12. A metal-oxide semiconductor field-effect transistor (MOSFET), comprising:

a fin having a width of approximately 100 Å to 400 Å formed on a substrate;

a gate dielectric formed on side surfaces of the fin; and

a gate electrode formed covering the fin.

13. The MOSFET of claim 12, wherein the gate electrode comprises first and second gate areas formed on first and second respective sides of the fin, the first and second gate areas being aligned with each other; and

wherein the MOSFET further comprises:

a source area; and

a drain area.

14. The MOSFET of claim 13, further comprising:

a silicide material formed over the substrate.

15. The MOSFET of claim 14, further comprising:

a gate contact formed through the silicide material and connected to the gate area;

a source contact formed through the silicide material and connected to the source area; and

a drain contact formed through the silicide material and connected to the drain area.

16. A method for forming a metal-oxide semiconductor field-effect transistor (MOSFET), comprising:

patterning a fin area, a source region, and a drain region on a substrate;

forming a fin in the fin area;

forming a mask in the fin area;

etching the mask to expose a channel area of the MOSFET;

etching the fin to thin a width of the fin in the channel area;

forming a gate over the fin; and

forming contacts to the gate, the source region, and the drain region.

17. The method of claim 16, wherein the forming contacts includes:

forming a silicide material on the substrate,

forming a gate contact through the silicide material,

forming a source contact through the silicide material, and

forming a drain contact through the silicide material.

18. The method of claim 16, wherein the forming a mask includes:

depositing damascene material over the substrate.

19. The method of claim 18, wherein the forming a gate includes:

etching the damascene material to form a gate region,

forming a gate dielectric on side surfaces of the fin, and

depositing gate electrode material to at least partially fill the gate region.

20. The method of claim 16, wherein the etching the fin includes:

removing approximately 100 Å to 200 Å per side from the width of the fin.